Amendment to the Claims

1-33. (Canceled)

34. (Previously Presented) A low resistance ITO thin film having a resistivity less than 1 x 10^{-4} Ω cm, said film deposited on a single crystalline substrate having a crystal face selected from the group consisting of a YSZ single crystal (100) face, a YSZ single crystal (111) face, a 3C-SiC single crystal (100) face, a CaF_2 single crystal (100) face, a MgO single crystal (100) face, a 6H-SiC single crystal (0001) face and a ZnO (0001) face.

35. (Previously Presented) A low resistance ITO thin film according to claim 34, wherein Sn dopant activity defined as {carrier density (cm^{-3})/ Sn density in said ITO film (number of Sn / cm^3)} is greater than about 80%.

36. (Previously Presented) A low resistance ITO thin film according to claim 34, wherein film mobility is greater than 39 cm^2/Vs.

37. (Previously Presented) A low resistance ITO thin film having a resistivity less than about 1 x 10^{-4} Ω cm deposited on a c-axis-oriented ZnO film provided on a crystalline substrate, said low resistance ITO thin film being deposited by epitaxial growth.

38. (Previously Presented) A low resistance ITO thin film according to claim 37, wherein Sn dopant activity defined as {carrier density (cm^{-3}) / Sn density in said ITO film (number of Sn / cm^3)} is greater than about 80%.

39. (Previously Presented) A low resistance ITO thin film according to claim 37, wherein mobility of said ITO thin film is greater than about 39 cm^2/Vs.

40. (Previously Presented) A low resistance ITO thin film according to claim 34, wherein said ITO thin film has a pattern formed thereon.

41. (Previously Presented) A low resistance ITO thin film according to claim 34, wherein said ITO thin film has a In_2O_3 crystal structure of one of a C-rare earth type and a corundum type.

42. (Previously Presented) A low resistance ITO thin film according to claim 34, wherein said ITO thin film is formed on said substrate which has a temperature between about 500 and about 1000 °C by a pulsed laser deposition method.

43. (Previously Presented) A low resistance ITO thin film according to claim 34, wherein said ITO thin film is formed by one of a low-voltage sputtering, an oxygen cluster beam deposition, a chemical vapor deposition, a metal organic chemical vapor deposition – atomic layer deposition, and a molecule beam epitaxy.

44. (Previously Presented) A low resistance ITO thin film according to claim 37, wherein said crystalline substrate is provided to accept said c-axis-oriented ZnO film crystal structure deposited thereon.

45. (Canceled)

46. (Previously Presented) A low resistance ITO thin film according to claim 37, wherein said single crystalline substrate is one of a YSZ single crystal substrate, a

substrate on which a c-axis oriented ZnO thin film is formed, a sapphire substrate, a SiC single crystal substrate and a silicon single crystal substrate.

47-48. (Canceled)

49. (Previously Presented) A low resistance ITO thin film having a resistivity less than about 1×10^{-4} Ω cm deposited on a c-axis oriented ZnO film provided on a glass substrate, said low resistance ITO thin film being deposited by epitaxial growth.